# Risk Analysis and Contingency Plan (II)

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## ABSTRACT

This document is an update on the risk analysis and contingency plan created at the beginning of the project, in 2019.

Since the last publication of the plan, new threats have been identified and old ones have been solved. In addition, two major events have occurred, which have strongly impacted the ExPaNDS project and its activities: COVID-19 and Brexit. This brief report is intended to explain the analysis of the situation as well as the actions taken and/or planned to avoid or mitigate any negative consequences the newly individualized threats might have on the project.

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## 1. Introduction

In December 2019, a preliminary risk analysis plan was created and published highlighting some risks/threats that should be taken into account during the course of the ExPaNDS project.

Risk management is an on-going activity that needs to be assessed, updated and reviewed throughout the existence of the project. The present report is an update of the original analysis. In the past year, additional threats were identified as well as vulnerabilities that impacted the level of risks. ANNEX 1 shows a detailed overview of the present status.

## 2. Risk Assessment and Risk Log

As explained in the previous deliverable, the risks were originally assessed through the knowledge of project topics as well as the awareness of the stakeholder situation and well-networked project partners. In addition, a close collaboration within the working packages (WPs) and the regular, continuous monitoring of their activities have been implemented (e.g. in regular meetings of the Project Executive Board – PEB). Experiences from other projects have been applied here as well, in particular of the PaNOSC project, given the similarities with the ExPaNDS strategy and goals.

ANNEX 1 presents a risk log providing a clear overview of identified risks, their registration date, their present status and their development.

Indeed, ExPaNDS is adopting the same scheme shared by PaNOSC and following the EOSC-hub risk management procedure.

After individualizing the risk/threat, the original registration is provided, as well as the initial mitigation measure, which was originally planned and/or adopted.

The risk owner, in our case either the project manager or the affected WP leader, has also been identified as the responsibility of regular monitoring of the treat situation is crucial for potential proactive intervention and fast risk response (Table 4). Fundamental is also to give the risk/threat a certain level of probability of occurrence, in our case "likelihood". Table 1 and Table 2 explain the various degrees of *Likelihood* assigned and the level of potential impact to the project objectives, respectively.

**Table 1: Likelihood**

| Rating | Description | Likelihood of occurrence |
|--------|-------------|--------------------------|
| 1 | Unlikely | Not expected, but there's a slight possibility it may occur at some time |
| 2 | Possible | The event may occur at some time |
| 3 | Likely | There is a strong possibility the event will occur |
| 4 | Almost Certain | Very likely. The event is expected to occur in most circumstances |

**Table 2: Impacts**

| Rating | Description | Project Objectives impact |
|---|---|---|
| 1 | Minor | • Any risks, which will have just a light impact on the project, still these must be addressed in time.<br>• Degradation of deliverable quality barely noticeable. |
| 2 | Moderate | • Risks, which will cause some problems, but nothing too significant.<br>• Reduction of deliverable quality requires approval. |
| 3 | Major | • Risks which can significantly jeopardize some aspects of the project, but which will not compromise the success of the whole project.<br>• Reduction of deliverable quality unacceptable. |
| 4 | Catastrophic | • A risk that can be detrimental for the whole project. |

The combination of the likelihood and the impact gives the risk a level (Table 3) that determines what the response should be and at what time interval it needs to be reviewed (table 4).

**Table 3: Risk level**

| Likelihood | Impact | | | |
|---|---|---|---|---|
| | **Minor** | **Moderate** | **Major** | **Catastrophic** |
| **Unlikely** | Low | Low | Medium | Medium |
| **Possible** | Low | Medium | High | High |
| **Likely** | Medium | High | High | Extreme |
| **Almost Certain** | Medium | High | Extreme | Extreme |

**Table 4: Response for each risk level**

| Risk Level | Response | Review |
|---|---|---|
| Low | • Accept<br>• Define recovery activities<br>• Monitor and review | Min every year |
| Medium | • Mitigate<br>• Define and implement mitigation activities<br>• Managed by monitoring or response procedures | Min every 6 months |
| High | • Avoid or Mitigate<br>• Define and implement<br>  o controls<br>  o mitigation activities<br>  o recovery activities<br>• requires PEB attention and definition of management responsibility | Min every 3 months |
| Extreme | • Avoid or Mitigate<br>• Define and implement<br>  o controls<br>  o contingency plan<br>  o recovery activities<br>  o mitigation activities<br>• Must be managed by PEB with a detailed treatment plan. | Min every month |

After identifying the consequence of the risk/threat and the WP affected, an updated mitigation measure has been provided. Since the individualization of the first risks/threats, two major events have occurred, which have strongly impacted the ExPaNDS project and its activities: the COVID-19 pandemic and Brexit. These were integrated and considered in the risk log as new vulnerabilities that have had and will have an impact on the updated mitigation procedures and follow-up actions for certain risks/threats.

Finally, the risk log has been recently updated with the status of each risk/threat and respective mitigation measure. Some threats originally identified in 2019 have been solved, the impact avoided and do not apply any longer. This is the case, for example, for Brexit as the UK Government has agreed to maintain funding for UK partners to collaborate with the project. However, some unforeseen complications might still arise and need to be kept into consideration. This is the case, for example, of the potential loss of compliance to the GDPR of the personal data handled by the project.

Risk management requires a continuous activity that needs to be analysed, closely monitored all through the life of the project. On-going communication and collaboration with all WPs will ensure a proactive approach and a smooth outcome.

# ExPaNDS

## ANNEX 1 : RISK ANALYSIS and MANAGEMENT SHEET

| # | Risk / Threat | Date of registration | Initial mitigation measure | Risk owner | Likelihood | Impact | Risk level | WP affected | Identified new vulnerabilities | Updated mitigation measure | Follow-up actions | Last update | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Poor communication and low engagement | Nov 2018 | Planning of regular communication events on a regular basis (e.g. biweekly PEB, annual meeting, WPs meetings,…). Creation of a collaboration space to share documents, software and tools. | project manager | Possible | Moderate | Medium | ALL WPs | COVID-19 emergency had an impact on this risk: travel ban, social distance, etc… | Ensure all planned activities can be implemented during the planned duration of the project, even if delayed. - Webinars | Monitor attendance to bi-weekly meetings and engagement with WP team. | Nov 2020 | ACTIVE |
| 2 | Lack of engagement of particular partners | Nov 2018 | The level of management by partners within this project renders this risk less likely. Measurable goals and transparent monitoring and reporting of tasks by WP1 will limit this risk. | project manager | Unlikely | Moderate | Low | ALL WPs | COVID-19 emergency had an impact on this risk with facilities staff involved in urgent COVID works and disengaging from the grant | 6-months extension requested | | Nov 2020 | ACTIVE |
| 3 | Partners leaving the consortium | Nov 2018 | There was a strong will to participate in the project by all partners. However, if a partner chooses to leave the consortium, the high-scientific profile of the remaining partners will allow re-distribution of the workloads. | project manager | Unlikely | Moderate | Low | ALL WPs | | Regular CB meetings | | Nov 2020 | ACTIVE |
| 4 | Need for a change of partnership due to UK leaving the EC without associated state agreement | Nov 2018 | UK government guarantee will maintain funding for UK partners to collaborate with project. In the unlikely case that this guarantee will be dropped non-UK partners preferably from same WPs to step in | project coordinator | Unlikely | Major | Medium | | BREXIT happened | UK government will maintain funding for UK partners to collaborate with project. Impact avoided, EU confirmed funding for UK for ExPaNDS | | Dec 2019 | SOLVED |
| 5 | Contractual difficulties during the startup phase of the project. (GA or CA preparation) | Nov 2018 | | project coordinator | Unlikely | Moderate | Medium | WP1 | | GA and CA signed | | Dec 2019 | SOLVED |
| 6 | Contractual difficulties when preparing the Collaboration Agreement (Art 41.4 of GA) | Nov 2018 | | project coordinator | Unlikely | Moderate | Medium | WP1 | | CollAg signed | | Dec 2019 | SOLVED |
| 7 | Loss of staff / difficulty in recruitment | Nov 2018 | All partners will use existing staff within established groups. Essential to ensure good communication, share of updated documentation. | project manager | Likely | Minor | Medium | ALL WPs | The Conoravirus situation escalates the problem; recruitment is a challenge for most facilities at the moment | 6-months extension requested, regular interim reports to detect possible problems earlier | Listen carefully to feedback from partners and WP leaders and monitor recruitment status closely, regular report to CB | Nov 2020 | ACTIVE |
| 8 | Low participation of stakeholders in consultations relating to FAIR data uptake | Nov 2018 | Project partners work closely within RIs to identify and engage appropriate stakeholders. Working with WP5 to engage in training. | WP2 leader | Possible | Minor | Low | WP2 | | Warning signs: missing feedback in stakeholder consultation | Try and get senior management more involved, as 'sponsors' or FAIR uptake | Nov 2020 | ACTIVE |
| 9 | Diversity of instruments and techniques for data management plan template | Nov 2018 | Consideration of methods and instruments to prioritise example areas | WP2 leader | Unlikely | Minor | Low | WP2 | | Good expertise and involvement in RDA working groups of ExPaNDS contributors to DMP | | Nov 2020 | ACTIVE |
| 10 | Lack of engagement with FAIRsFAIR, OPENAIREAdvance and FREYA project | Nov 2018 | Early contacts and close cooperation between relevant projects. Working closely among the groups involved. | WP2 leader | Possible | Moderate | Medium | WP2 | | Participation of ExPaNDS in the 5b projects task force on FAIR | | Nov 2020 | ACTIVE |

| # | Risk / Threat | Date of registration | Initial mitigation measure | Risk owner | Likelihood | Impact | Risk level | WP affected | Identified new vulnerabilities | Updated mitigation measure | Follow-up actions | Last update | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | PaNOSC API and federated services are delayed | Nov 2018 | Close communication with PaNOSC WP3 / Close collaboration with PaNOSC management; provide EOSC landing page for national Photon and Neutron data catalogues. | WP3 leader | Possible | Moderate | Medium | WP3, WP4 | | | Participation of ExPaNDS in the specification of PaNOSC search API | Nov 2020 | ACTIVE |
| 12 | Ontology V1.0 not available | Nov 2018 | WP2 and WP3 will be working on these areas, and should be able to develop an ExPaNDS ontology dictionary if required. | WP3 leader | Unlikely | Moderate | Medium | WP2, WP3 | | Request for a 3-months extension of the deadline for the ontology included in the amendment, making this risk unlikely | | Nov 2020 | ACTIVE |
| 13 | EOSC-hub services not available | Nov 2018 | Close collaboration with EGI to ensure prioritisation of EOSC-hub activities which are relevant for ExPaNDS. | WP1 leader | Possible | Minor | Medium | WP3, WP4 | | Onboarding procedure already in place and followed by dedicated 5b task force where EGI represents ExPaNDS | | Nov 2020 | ACTIVE |
| 14 | Slow take up of data access using Umbrella-ID | Nov 2018 | WP3 includes members of the Umbrella-ID project and integrating with the facility data catalogues is on their roadmap. | WP3 leader | Possible | Moderate | Medium | WP3 | | | | Nov 2020 | ACTIVE |
| 15 | Icat and SciCat cannot be extended | Nov 2018 | The WP3 partners have developers in both teams, which will ensure that integration will be seamless and smooth. | WP3 leader | Unlikely | Moderate | Medium | WP3 | | | | Nov 2020 | ACTIVE |
| 16 | NeXus Format not extensible to use with an Ontology methodology | Nov 2018 | Several members of the NeXus International Advisory Committee are involved in ExPaNDS project, which will aid prevention of any perceived issues arising. | WP3 leader | Unlikely | Minor | Low | WP3 | | NeXus is extensible, we will suggest with PaNOSC extended vocabulary based on the ontology works | | Dec 2019 | SOLVED |
| 17 | Loss of support for one of the Analysis Services during integration into EOSC-hub | Nov 2018 | Ensure completeness of documentation and availability of software for selected candidates at start of project. Support can then be taken over by RI participating within WP4 | WP4 leader | Unlikely | Minor | Low | WP4 | | Sustainability issue taken into account in the sustainability report, common issue with PaNOSC | | Nov 2020 | ACTIVE |
| 18 | Over-specified user needs, technical disagreement between the test platform and the deployment platform | Nov 2018 | Ensure regular and clear communication between deployment and testing teams | WP4 leader | Possible | Moderate | Medium | WP4 | | Communication between developers at different facilities made easier by the technical workshop early October 2020 | Follow-up take up of technical chat facility and repository to share developments | Nov 2020 | ACTIVE |
| 19 | EOSC Services not ready at critical milestones | Nov 2018 | Regular Communication with stakeholders related to EOSC services / prepared for flexibility for deployment | WP1 leader | Unlikely | Moderate | Medium | WP3, WP4 | | Working to integrate with the PaN portal independently of EOSC. Following EOSC interoperability framework in WP3 developments | | Nov 2020 | ACTIVE |
| 20 | **Lack of take-up by PaN user community** | Nov 2018 | Ensure the Photon and Neutron user community is involved in the design, testing and deployment of the data services from the very start of the project. | WP6 leader | Possible | Major | **High** | WP3, WP4, WP6 | | First user meeting due before end of 2020 | A strategy to better engage with the user community should be defined in 2020. | Nov 2020 | ACTIVE |
| 21 | Difficulties in deployment of metadata catalogue APIs | Nov 2018 | Use input from WP3 and PaNOSC to make use of metadata catalogue test infrastructure. | WP3 leader | Possible | Moderate | Medium | WP3, WP4 | | Deployment of API identified in roadmap (D3.1) | | Nov 2020 | ACTIVE |
| 22 | Receive improper/incomplete documentation from the WPs to prepare training material | Nov 2018 | Continuous communication with the work package leaders | WP5 leader | Possible | Moderate | Medium | WP5 | | Planned regular meeting with WP leaders (monthly) to define material and needs | | Nov 2020 | ACTIVE |

| # | Risk / Threat | Date of registration | Initial mitigation measure | Risk owner | Likelihood | Impact | Risk level | WP affected | Identified new vulnerabilities | Updated mitigation measure | Follow-up actions | Last update | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | Inappropriate attendance for the workshops | Nov 2018 | Communication activities | WP5 leader | Possible | Moderate | Medium | WP5, WP6 | Opportunity of remote participation actually enabled us to have >100 attendees to our first workshop on FAIR | | Carry on good communication around workshops | Nov 2020 | ACTIVE |
| 24 | Unsatisfactory level of usage of the e-platforms by the users | Nov 2018 | Monitoring of participations and feedback/regular communication activities | WP5 leader | Possible | Moderate | Medium | WP5 | | Risk shared with PaNOSC | | Nov 2020 | ACTIVE |
| 25 | Delays in delivery of outputs from WP 2, 3, 4 | Nov 2018 | Active management from WP1 to monitor and review deliverables; early engagement with external collaborators (e.g. PaNOSC, FAIRsFAIR) | project manager | Possible | Moderate | Medium | ALL WPs | COVID-19 emergency had an impact on this risk with a reschedule of due dates | Checked with 5b projects and PaNOSC that the extension didn't impact interfaces | Regular communication and online meetings to monitor progress and update intermediate tasks. | Nov 2020 | ACTIVE |
| 26 | UK leaving the EU without being identified as a trusted 3rd party country for GDPR compliance | June 2020 | | WP6 leader | Likely | Minor | Medium | ALL WPs | Personal data in the SharePoint not subject to GDPR anymore | | UK obliged to comply until the end of 2020, monitor the situation afterwards | June 2020 | ACTIVE |
| 27 | Duplication of efforts | Nov 2020 | | project manager | Possible | Moderate | Medium | ALL WPs | | Participation of all ExPaNDS WPs in the 5b project task forces, close collaboration with PaNOSC with regular meetings | Mapping document of collaboration and complementary areas being elaborated with PaNOSC | Nov 2020 | ACTIVE |